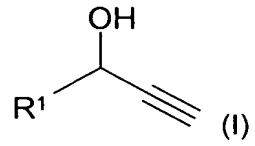
What is claimed is:

1. A process for preparing a propargyl alcohol of the formula I



(I)

in which R^1 is a C_{1-30}-alkyl, C_{3-8}-cycloalkyl, C_{2-20}-alkoxyalkyl, C_{6-14}-aryl, C_{7-20}-alkoxyaryl, C_{7-20}-aralkyl, C_{7-20}-alkylaryl radical or H, which comprises reacting a corresponding aldehyde of the formula R^1-CHO with acetylene in the presence of ammonia and a catalytic amount of an alkali metal hydroxide, alkaline earth metal hydroxide or alkali metal alkoxide in the range from 0.6 to 10 mol% based on the aldehyde used.

2. The process according to claim 1, wherein the reaction is carried out at temperatures in the range from 0 to 50°C.

3. The process according to claim 1 or 2, wherein the reaction is carried out at absolute pressures in the range from 1 to 30 bar.

4. The process according to any of the preceding claims, wherein the aldehyde and the acetylene are used in a molar ratio in the range of aldehyde:acetylene = from 1:1 to 1:10.

5. The process according to any of the preceding claims, wherein the catalytic amount of alkali metal hydroxide, alkaline earth metal hydroxide or alkali metal alkoxide is in the range from 1 to 10 mol% based on the aldehyde used.

6. The process according to any of the preceding claims, wherein R^1 is a C_{4-10}-alkyl or phenyl radical.

7. The process according to any of claims 1 to 5, wherein R^1 is n-pentyl or 3-heptyl.

8. The process according to any of the preceding claims, wherein conversion to propargyl alcohol is effected by simultaneously metering a stream comprising acetylene and ammonia, a stream comprising the aldehyde and a stream comprising the alkali metal hydroxide, alkaline earth metal hydroxide or alkali metal alkoxide into a reactor.

9. The process according to any of the preceding claims, wherein the alkoxide is a C_{1-4}-alkoxide.

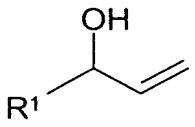
10. The process according to any of the preceding claims, wherein the alkali metal is sodium or potassium.

11. The process according to any of the preceding claims, wherein the alkaline earth metal is magnesium or calcium.

12. The process according to any of the preceding claims, wherein the alkali metal alkoxide or metal hydroxide is dissolved or suspended in an alcohol.

13. The process according to claim 12, wherein the alkali metal alkoxide is dissolved or suspended in the alcohol which corresponds to the alkoxide by protonation.

14. A process for preparing an allyl alcohol of the formula II



(II)

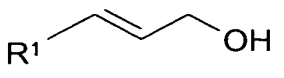
in which R^1 is as defined in the preceding claims, which comprises preparing a propargyl alcohol of the formula I by the process according to any of the preceding claims and then reacting with hydrogen in the presence of a hydrogenation catalyst.

15. The process according to the preceding claim, wherein the propargyl alcohol is reacted with hydrogen in the presence of carbon monoxide (CO).

16. The process according to either of the two preceding claims, wherein the hydrogenation catalyst comprises Pd, optionally doped with elements of main group III, IV, V, VI and/or of transition group I, II, III, VI, VII of the Periodic Table of the Elements.

17. The process according to any of the three preceding claims, wherein the hydrogenation catalyst is a thin-layer catalyst.

18. A process for preparing an allyl alcohol of the formula III



(III)

in which R^1 is as defined in the preceding claims, which comprises preparing an allyl alcohol of the formula II by the process according to any of the four preceding claims and then carrying out a 1,3-allyl rearrangement.